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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,401	07/31/2003	Keiji Hashimoto	15468-004001 / PA0117US	2928
20985	7590	05/08/2007	EXAMINER	
FISH & RICHARDSON, PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			ALEJANDRO, RAYMOND	
			ART UNIT	PAPER NUMBER
			1745	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/632,401	HASHIMOTO ET AL.	
	Examiner	Art Unit	
	Raymond Alejandro	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-15 and 21 is/are pending in the application.
- 4a) Of the above claim(s) 3,4 and 6-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>04/30/07</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/30/07 has been entered.

This correspondence is being provided in reply to the amendments accompanying the aforementioned RCE. The objections have been overcome by the applicant. Refer to the abovementioned amendments for substance of applicant's rebuttal arguments. Nonetheless, after further consideration the previous ground of rejection is maintained herein. Therefore, the present claims (including newly added claim 21) are non-finally rejected over the same art as well as a newly discovered reference as shown hereunder and for the reasons of record:

Election/Restrictions

1. Claims 3-4 and 6-15 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 04/20/06, 04/05/06 and 03/09/06.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 04/30/07 was considered by the examiner.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2 and 21 are rejected under 35 U.S.C. 102(b) as anticipated by the Japanese publication JP 01-093062 (hereinafter referred to as the JP'062).

The present claims are directed to a separator wherein the disclosed inventive concept comprises the specific separator comprising materials which are made different.

Concerning claims 1-2:

The JP'062 discloses a separator for a fuel cell (TITLE) being formed with a Ni-stainless steel clad material, having a specified cladding ratio, in which pure Ni or high Ni steel is formed to one gas side and chromium-Ni-stainless steel is faced to the other gas side (ABSTRACT). A Ni-plate and a stainless steel plate form a thin clad plate (ABSTRACT).

In sum, the JP'062 teaches a chromium Ni-stainless steel (chrome-based material) is used to form one side of the separator; and Ni-steel and/or stainless steel is employed to form the other side of the separator (ABSTRACT).

1st Examiner's note: *applicant discloses that “the chrome alloy has reduced elution of metal ion” and “the nickel alloy has a characteristic of being difficult to form a thick oxide coating layer” (See applicant's specification at page 14, lines 15-26 and the 08/11/06 amendment at page 8, last full paragraph). Therefore the claimed characteristics are inherent to the specific materials used to form the separator. Thus the claiming of a new use, new function*

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or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. In re Best, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977). Where applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 U.S.C. 102/103. The burden of proof is on applicant In re Fitzgerald, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)). See MPEP 2112.

2nd Examiner's note: as to the specific preamble reciting "a separator for a polymer electrolyte fuel cell, it is pointed out that the preamble refers to intended use. That is, the claim is directed to a separator per se and the preamble phrase "for a polymer electrolyte fuel cell" is only a statement of ultimate intended utility. In this respect, a recitation directed to the manner in which a claimed product or apparatus is intended to be used does not distinguish the claimed product/apparatus from the prior art if the prior art has the ability to so perform (MPEP 2114 and Ex parte Masham, 2 USPQ 2d 1647), or if the prior art product/apparatus is capable of performing in the claimed manner, the claims should be rejected because a new intended use for an old product/apparatus does not make a claim to that old product/apparatus patentable (In re Schreiber 44 USPQ 2d 1429).

Concerning claim 2:

The JP'062 bonds the respective separator materials by cladding (ABSTRACT).

Concerning claims 21:

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A chromium Ni-stainless steel (chrome alloy) is used to form one side of the separator and Ni-steel and/or stainless steel is employed to form the other side of the separator (ABSTRACT).

Thus, the present claims are anticipated.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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8. Claims 1-2 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over the European publication EP 1098380 (hereinafter referred to as the EP'380).

The present claims are directed to a separator wherein the disclosed inventive concept comprises the specific separator comprising materials which are made different.

As to claim 1:

The EP'380 reveals a gas separator for fuel cells obtained as a laminate of unit cells (ABSTRACT). Disclosed is that gas separator 30 has a base plate unit 60 that is obtained by bonding two base plates 62 and 64 molded to have predetermined shapes (ABSTRACT). The separator is combined with adjoining members to define either a flow path of a gaseous fuel or a flow path of an oxidizing gas, and separates a flow of gaseous fuel from a flow of oxidizing gas (P.0001, 0003). *Thus, the separator of the EP'380 faces the fuel cell anode at one side and the fuel cell cathode at the other side.*

(*emphasis supplied*→) The EP'380 uses either stainless steel or aluminum to make the separator plates (P0064,0010, 0019, 0031,0051,0056).

(*emphasis supplied*→) The EP'380 reveals that base plates 62 and 64 are made of a metal material such as stainless steel or aluminum (P0064,0010, 0019, 0031,0051,0056). *Note that stainless is an alloy of steel with chromium and sometimes another element such as Ni or Mo (Merriam-Webster's Collegiate Dictionary, 10th Edition). Therefore, base plates of the EP'380 are made of a chromium-containing alloy (chrome alloy) and nickel-containing alloy. As a result, the characteristic of reducing elution of metal ions is inherent due to the chromium-*

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containing alloy (chrome alloy); and the characteristic of being difficult to form a thick oxide coating layer is also inherent due to nickel-containing alloy.

1st Examiner's note: applicant discloses that "the chrome alloy has reduced elution of metal ion" and "the nickel alloy has a characteristic of being difficult to form a thick oxide coating layer" (See applicant's specification at page 14, lines 15-26 and the 08/11/06 amendment at page 8, last full paragraph).

More importantly, applicant further discloses that "every metallic or non-metallic material can be used for those facing the anode electrode" and "every metallic or non-metallic can be used for those facing to the cathode electrode" (See applicant's specification paragraph bridging pages 24-25).

It can be concluded from reading such a disclosure, that any metallic or non-metallic material is suitable for achieving applicant's functionality. In this context, it is thus contended that the aluminum (Al) material disclosed by the EP'380 satisfies the claimed requirement. Thus, the combination of stainless steel on one side of the separator and Al on the other side thereof further satisfies the functional requirement because stainless steel is an alloy containing multiple components such as steel, chromium, nickel and molybdenum, it is an alloy composed of chromium as well as nickel; and aluminum (Al) is a metallic material.

Therefore the claimed characteristics are inherent to the materials disclosed by the EP'380. Thus the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. In re Best, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977). Where applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that

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of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 U.S.C. 102/103. The burden of proof is on applicant In re Fitzgerald, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)). See MPEP 2112.

***2nd Examiner's note:** as to the specific preamble reciting "a separator for a polymer electrolyte fuel cell, it is pointed out that the preamble refers to intended use. That is, the claim is directed to a separator per se and the preamble phrase "for a polymer electrolyte fuel cell" is only a statement of ultimate intended utility. In this respect, a recitation directed to the manner in which a claimed product or apparatus is intended to be used does not distinguish the claimed product/apparatus from the prior art if the prior art has the ability to so perform (MPEP 2114 and Ex parte Masham, 2 USPQ 2d 1647), or if the prior art product/apparatus is capable of performing in the claimed manner, the claims should be rejected because a new intended use for an old product/apparatus does not make a claim to that old product/apparatus patentable (In re Schreiber 44 USPQ 2d 1429).*

As to claim 2:

Disclosed is that the gas separator 30 has a base plate unit 60 that is obtained by bonding two base plates 62 and 64 molded to have predetermined shapes (ABSTRACT).

***2nd Examiner's note:** it is noted that the instant claims are being construed as **product-by-process claims** (i.e. the limitation reciting "the bonding" of the separator members) and that the product itself does not depend on the process of making it. Accordingly, in a product-by-process claim, the patentability of a product does not depend on its method of production. In*

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that, it is further noted that the product in the instant claims is the same as or obvious over the product of the prior art.

Therefore, claim 2 is anticipated by the EP'380. However, if the claims are not anticipated the claims are obvious as it has been held similar products claimed in product-by-process limitations are obvious *In re Brown* 173 USPQ 685 and *In re Fessman* 180 USPQ 324 (**Refer to MPEP 2113: Product-by-Process Claims**).

Additionally, the burden of proof is on applicant *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)). Thus the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977). Where applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 U.S.C. 102/103. See **MPEP 2112**.

Response to Arguments

9. Applicant's arguments with respect to claims 1-2 and 21 have been considered but are moot in view of the new ground(s) of rejection. See item 4 supra.
10. Applicant's arguments filed 04/30/07 have been fully considered but they are not persuasive.
11. Applicant has contended that the amendment to the claims "*to specify that different materials are used*" obviates the Examiner's assertion that "*the same material can carry out both*

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functions of reducing the elusion of metal ions and also making it difficult to form a thick oxide coating layer". In this case, the Examiner now sides with the applicant in that the amendatory language excludes using same materials for making the separator. The Examiner's approach that the same stainless steel material of the EP'380 can carry out both functions has been overcome in view of applicant's amendment specifying the use of different materials.

Nonetheless, after further consideration and reading of applicant's specification, the Examiner now presents a different approach for sustaining the ground of rejection based upon the EP'380.

For instance, the EP'380 uses either stainless steel or aluminum to make the separator plates (P0064,0010, 0019, 0031,0051,0056); and it is imperative to note that applicant discloses that *"every metallic or non-metallic material can be used for those facing the anode electrode"* and *"every metallic or non-metallic can be used for those facing to the cathode electrode"* (See applicant's specification paragraph bridging pages 24-25). In addition, applicant discloses that "the chrome alloy has reduced elution of metal ion" and "the nickel alloy has a characteristic of being difficult to form a thick oxide coating layer" (See applicant's specification at page 14, lines 15-26 and the 08/11/06 amendment at page 8, last full paragraph). It can be concluded from reading such a disclosure, that any metallic or non-metallic material is suitable for achieving applicant's functionality. In this context, it is thus contended that the aluminum (Al) material disclosed by the EP'380 satisfies the claimed requirement. Thus, the combination of stainless steel on one side of the separator and Al on the other side thereof further satisfies the functional requirement because stainless steel is an alloy containing multiple components such as steel, chromium, nickel and molybdenum, it is an alloy composed of chromium as well as nickel; and

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aluminum (Al) is a metallic material. Therefore the claimed characteristics are inherent to the materials disclosed by the EP'380.

The burden is shifted to the applicant to come forward with objective evidence demonstrating that aluminum (Al) is incapable of exhibiting the claimed properties and/or characteristics. The burden of proof is on applicant *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)). See *MPEP* 2112. Thus the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977). Where applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 U.S.C. 102/103.

12. The principal argument raised by the applicant is based apparently on the assertion that because “both half members (of the separator Yoshimura et al) are made of the same material (stainless steel)” they are incapable of exhibiting “the characteristics of reducing elution of metal ions and of being difficult to form a thick oxide coating layer”. The examiner disagrees with applicant’s position; and shifts the burden to applicant to prove otherwise based on the 102/103 inherency ground of rejection as set forth above.

Concerning this matter, the EP'380 reveals that base plates 62 and 64 are made of a metal material such as stainless steel or aluminum (P0064,0010, 0019, 0031,0051,0056). Note that stainless is an alloy of steel with chromium and sometimes another element such as Ni or Mo (*Merriam-Webster's Collegiate Dictionary*, 10th Edition). Therefore, base plates of the EP'380

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are made of a chromium-containing alloy (chrome alloy) and nickel-containing alloy. As a result, the characteristic of reducing elution of metal ions is inherent due to the chromium-containing alloy (chrome alloy); and the characteristic of being difficult to form a thick oxide coating layer is also inherent due to nickel-containing alloy.

Applicant discloses that “the chrome alloy has reduced elution of metal ion” and “the nickel alloy has a characteristic of being difficult to form a thick oxide coating layer” (*See applicant’s specification at page 14, lines 15-26 and the 08/11/06 amendment at page 8, last full paragraph*). That being said, it is contended that since stainless steel is an alloy containing multiple components such as steel, chromium, nickel and molybdenum, it is an alloy composed of chromium as well as nickel, therefore the claimed characteristics are inherent to the alloy material. Thus the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977). Where applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 U.S.C. 102/103. The burden of proof is on applicant *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (*quoting In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)). See MPEP 2112.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Alejandro whose telephone number is (571) 272-1282. The examiner can normally be reached on Monday-Thursday (8:00 am - 6:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Raymond Alejandro
Primary Examiner
Art Unit 1745


RAYMOND ALEJANDRO
PRIMARY EXAMINER